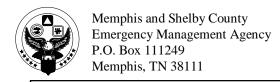
# Disaster Awareness, Response, and Recovery



Memphis and Shelby County Emergency Management Agency P.O. Box 111249 Memphis, TN 38111

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### **Disaster Awareness**



This document has been provided by the Memphis/Shelby County Emergency Management Agency (EMA) to provide you with guidelines to help you prepare for a disaster, and handle the aftermath.

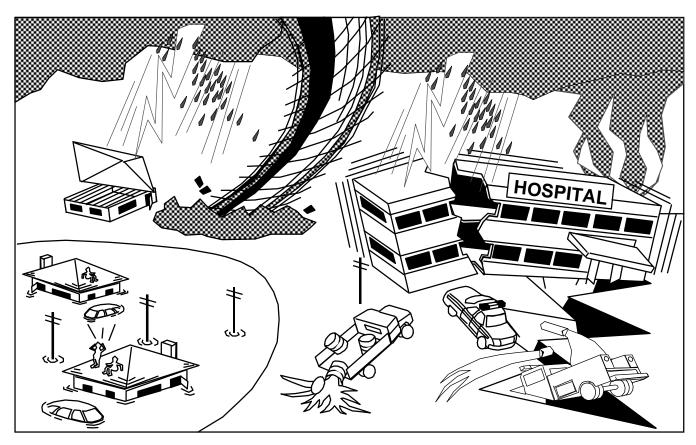
Some of the hazards that you might face in Shelby County or while traveling include the following:

#### **LOCAL EVENTS**

#### **REGIONAL EVENTS**

- Fire
- Hazardous materials accident
- Tornado

- Winter storm
- Flood
- Hurricane
- Earthquake



The Memphis/Shelby County Emergency Management Agency was set up to aid the citizens of Shelby County. EMA is open 24 hours/day, 7 days/week, and can be reached at 901-458-1515. Services provided include the following:

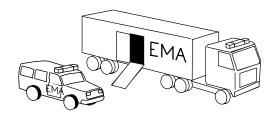
Maintain and activate the outdoor warning siren system

Provide training and education on disaster preparation

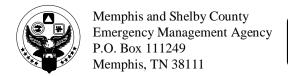
Coordinate local and state agencies

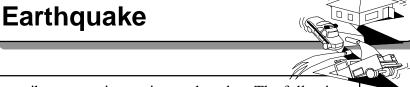
Provide damage assessment

Provide daily responses to emergencies and disasters



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One of the most serious disasters that can strike an area is a major earthquake. The following guidelines will help you to know what to do in the event of a major earthquake.

#### ☐ At Home, Work, or School

**Duck** into a corner or under a desk or heavy table.

**Cover** your face and head.

**Hold** on until the shaking stops.

If there is nothing to hide under, move against a wall, in a doorway, or to an inside corner away from windows, and cover your face and head.

Move away from anything glass (windows, cabinets).

Do not run outside during the earthquake (many people are killed by glass and debris falling from the outside of buildings).

Watch for falling objects (plaster, bricks, light fixtures, ceiling tiles).

Do not use elevators (you may become stuck between floors).

Do not be surprised if the fire alarm or sprinkler system comes on.

### Duck!

Cover!

Hold!

#### ☐ In a Stadium or Theater

**Duck** below the level of the seat backs.

**Cover** your face and head.

**Hold** on until the shaking stops.

#### **☐** While driving

Pull to the side and stop.

Don t stop under wires or an overpass.

Wait in your car for the shaking to stop.

#### **☐** Outside

Move away from buildings, trees, wires.

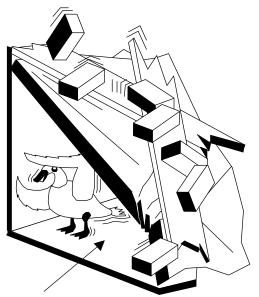
#### ☐ In a Wheelchair

Stay where you are unless very hazardous.

Move to cover if possible.

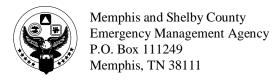
Lock wheels.

Protect your face and head.



The "triangle of life"

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period just after the earthquake.

### **Earthquake Recovery**

Memphis, TN 38111

After the earthquake there will be panic. The following are some guidelines for the

#### **☐** Immediate Actions

can restore gas.

Check for injuries, apply first aid.

Put out small fires.

Be careful of broken glass, nails, and other sharp objects (wear shoes and leather gloves).

Close the main water shutoff valve (seals off water in the house).

Shut off electricity if necessary to control fires If you smell gas, open a door or window and leave immediately. Shut off the gas valve. Note: once shut off, only the utility company

Check your neighbors for gas leaks, since a gas explosion could affect several houses.

Use flashlights rather than a flame. Do not turn on lights or create a spark due to the danger of leaking gas.

#### **☐** Follow-up actions

Tend to injuries.

Listen to the radio for instructions.

Clean up broken glass, spilled chemicals.

Gather supplies and be prepared to evacuate.

Open cabinets and closets carefully as the contents may have shifted.

Be prepared for aftershocks. Purify drinking water.

Practice strict sanitation.

#### ☐ Protective gear

Hat

Goggles

Mask

**G**loves

Boots



#### □ Water

Water can be purified by straining through paper towels, paper coffee filters, or several layers of clean cloth into a container to remove sediment of floating matter. Note: Do not store drinking water in a container that held a poisonous or hazardous substance.

Boil water vigorously for at least 5 minutes. Boiling longer is better if you have the heat to spare. If water cannot be boiled, after straining use the water purification tablets in your disaster kit (follow instructions on the bottle).

Water can be drawn from the pipes by opening a faucet at a high level (to let air in) and draw water from a faucet a low level.

Water can be drawn from a water heater using the following method:

- 1. Turn off the gas or electric supply to the heater
- 2. Close the water inlet valve (near the heater)
- 3. Open the relief valve on top of the tank to let air into the lines
- 4. Drain water from the drain valve at the bottom of the tank

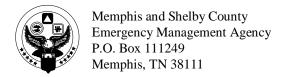
#### **☐** Sanitation

Garbage bags can be used to store waste temporarily.

Pool or spa water can be used to flush toilets, but do not drink it.

Dead bodies should be wrapped in sheets and stored in a cool place. Notify authorities as soon as possible. Dead animals can be buried 3ft to 4ft deep and covered with lime or bleach.

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## **Fire Suppression**



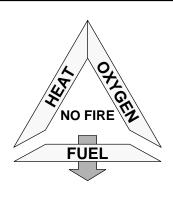
#### The fire triangle:

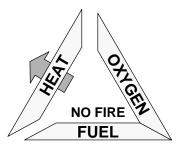
Fire requires the presence of three elements:

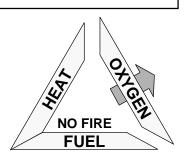
- Fuel
- Heat
- Oxygen



If any element is removed, there will be no fire.







Classes of fire (based on the fuel that is burning):





Ordinary **Combustibles** 









☐ Class A

plastics)





**Equipment** 

Flammable liquids (gasoline, oil, kitchen grease, paints, solvents)

Combustible liquids burning vapor (charcoal lighter fluid, kerosene, diesel fuel)

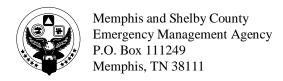
Ordinary combustibles (paper, wood, rubber, some



☐ Class C

Live electrical equipment

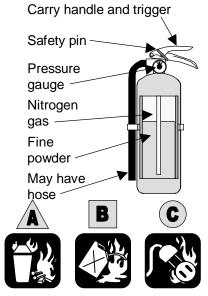
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### **Fire Suppression**



#### Common types of fire extinguishers:



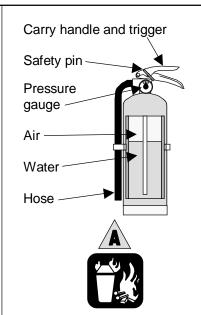
#### Dry chemical fire extinguisher

Typically used for class A, B, and C fires (some are B, C only check the label)

Discharge time: 10 - 20 seconds

Range: 8 42 feet Can be throttled

Must be re-charged after use Removes oxygen from fire



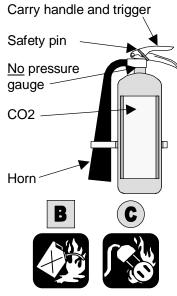
#### Water fire extinguisher

Use for class A fires Range: 30 40 feet

Use caution to make sure water stream does not scatter

the fire

Removes heat from fire



### Carbon Dioxide (CO2) fire extinguisher

Use for class B,C fires

Range: 8 - 12 feet

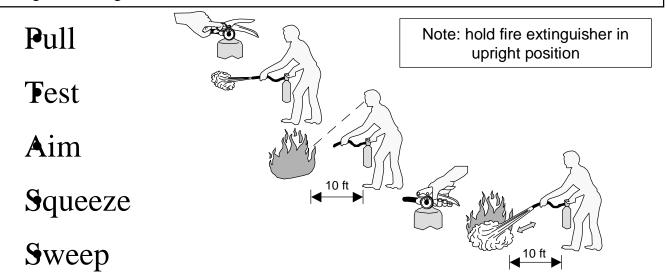
Hose becomes very cold during

Hose may develop static electricity during use

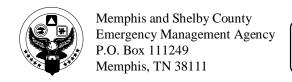
Removes oxygen and heat from

fire

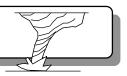
#### Using a fire extinguisher:



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### **Tornado**



Tornadoes develop from severe thunderstorms in warm, moist, unstable air along and ahead of cold fronts. The following information should be useful to you in preparing for tornadoes.

#### ☐ Tornado preparation

Pick a safe place in your home where family members could gather during a tornado.

Stay away from windows
Underground is safest
If there is no basement or storm
shelter, consider an interior
hallway or room on the lowest
floor

Put as many walls as possible between you and the outside

In a high-rise building

Go to an interior hallway in the center of the building

In a mobile home

Go to a safe place in a nearby sturdy building

Know about the warning signals in your area, such as sirens.

If you can, purchase a weather alert radio, which is tuned to the National Weather Service. This will provide the most up-to-date information.

Plan to bring a radio, TV, or weather alert with you to keep abreast of latest conditions.

Check with your children's school or day care to learn of their tornado emergency plans.

Discuss tornadoes with your family and practice periodic tornado drills to reduce the fear and let everyone know how to respond.

#### ☐ Tornado watch

**Tornado watch**: means conditions are favorable for a tornado to develop. **L**isten to the radio or TV for the latest information or updated weather advisories.

Keep your weather alert radio handy if you have one.

Be aware of changing conditions. Large hail, blowing debris, or the sound of an approaching tornado may alert you. Many people say an approaching tornado sounds like a freight train.

#### ☐ Tornado warning

**Tornado warning**: means that a tornado has been spotted on radar or by observers on the ground.

If you hear the siren, or hear that a tornado is in your area on the radio or TV, take cover immediately.

If you are in your home, go to your safe room and brace yourself.

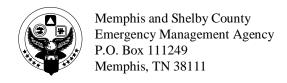
If you are in a high-rise, go to an interior hallway.

If you are in a mobile home, leave and go to a sturdy building.

If you are in your car, leave and seek shelter in a sturdy building. If no building is available, lie down in a ditch and cover your head.

Avoid places with wide-span roofs, such as auditoriums, cafeterias, or shopping malls, as these roofs may collapse in a tornado.

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### **Flooding**



#### ☐ Flooding preparation

Develop a family disaster plan.
Learn about your area s'flood risk.
Talk to your insurance agent to see if you are covered for flooding.
Develop an evacuation plan.
Discuss floods with your family.
If you can, purchase a weather alert radio, which is tuned to the National Weather Service. This will provide the most up-to-date information.
Keep your valuable papers in a safe place (a safe-deposit box at a bank is best).

#### ☐ Flooding general rules

If you come upon flood waters, move to higher ground or go another way. Do not try to walk or swim in flood waters. You may not be able to tell from the surface how fast the water is flowing, but even six inches of fast-flowing water can knock you off your feet. Also, there may be hidden holes or submerged debris. Many people are swept away while trying to wade through flood waters, resulting in injury or death. Do not try to drive through flood waters. Vehicles can be swept away in two feet of flowing water. Most flood fatalities are caused by people attempting to drive through water, or people playing in flood waters.

Watch out for snakes in flooded areas. Stream banks may be unstable. Throw away all food that has come into contact with flood waters. Try not to allow your body to come into contact with flood waters due to the high amount of bacteria and germs in the water.

#### ☐ Flood watch

**Flood watch**: means conditions are favorable for the development of flooding conditions in 12 to 36 hours. Listen to the radio or TV for the latest information or updated weather advisories.

Be aware of changing conditions and be prepared to respond quickly.

If you are in a flood-prone area:

Fill bathtubs, sinks, and plastic bottles with clean water in case the normal water supply becomes contaminated.

Move your furniture and valuables to higher floors of your home.

If you are instructed by authorities, turn off all utilities (to prevent fires).

Bring in outdoor furniture and belongings.

Be ready to evacuate with your valuable papers and disaster kit if advised to do so by local authorities.

Fill your car s'gas tank in case evacuation is necessary.

#### ☐ Flood warning

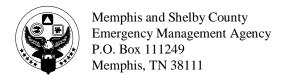
**Flood warning**: means that hazardous flooding is occurring or is imminent in about 30 minutes to an hour.

Listen to the radio or TV for the latest information or updated weather advisories.

Be aware of changing conditions and be prepared to respond quickly.

Be prepared to evacuate on the advice of local authorities.

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### **Winter Storm**



Severe weather can happen any time of the year, and you should be prepared.

#### ☐ Winter storm preparation

Ensure your vehicles have been winterized (anti-freeze, good battery, etc.). If you can, purchase a weather alert radio, which is tuned to the National Weather Service. This provides the most up-to-date weather information.

#### ☐ Winter storm advisory

Winter storm advisory: means conditions are favorable for a winter storm to develop. Listen to the radio or TV for the latest information or updated weather advisories. Keep your weather alert radio handy if you have one.

Be aware of changing conditions.

#### **☐** Winter storm warning

**Winter storm warning**: means that a winter storm is imminent.

In the event of snow, be careful not to over-exert yourself. Overexertion can cause heart attacks.

Keep cabinet doors open and water dripping to keep the pipes from freezing. Wear several layers of clothes, and not tight clothes.

Keep your head covered.

Hypothermia can result if you do not keep yourself warm.

#### **☐** At risk of Hypothermia

**Elderly** 

Babies

People involved in an accident

People with mental or heart problems

#### ☐ Avoiding Hypothermia

Wear clothing in layers (wool is best).

Wear a hat.

Stay dry.

Avoid the wind, reduce your exposure.

Drink plenty of fluids and hot drinks.

Do not drink alcohol.

Keep well nourished, especially fruit and nuts.

Note: most hypothermia cases develop in air temperatures between 30 and 50 degrees F.

#### **☐** Hypothermia warning signs

Violent shivering, especially if it suddenly stops

Difficulty speaking, walking, performing tasks with hands

Confusion, difficulty in paying attention

Slow, shallow breathing

Slow, weak pulse

Apparent exhaustion

Pale, puffy face

Sleepy (to sleep is to die!)

#### ☐ Treating and response to Hypothermia

Keep calm.

If breathing has stopped or there is no pulse, begin CPR.

€ontact emergency services.

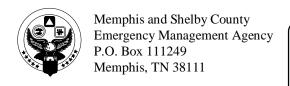
Remove cold, wet clothing and replace with warm, dry clothing.

Protect the person with blankets or other covering, especially the head and neck.

Do not give hot food or drinks, or alcohol.

Do not put the person in a hot tub or shower.

Do not rub extremities.



# Hazardous Material Spill, Shelter in Place



One of the basic instructions you may be given during a chemical emergency is to shelter-in-place. This is a precaution aimed to keep you and your family safe while remaining in your home.

You will be notified of a major chemical emergency by local authorities such as the Police Department, Fire Department. The Emergency Management Agency may sound the warning siren in your area. You may get a telephone call from the Emergency Notification System giving you instructions, or emergency personnel may drive by and give instructions over a loudspeaker. Officials might even come to your door. If you hear a siren or other warning signal, turn on your radio or TV for further emergency information.

If you are told to shelter-in-place, complete the following tasks.

Go inside. Bring in all family members and pets. While gathering your family you can provide a minimal amount of breathing protection by covering your mouth and nose with a damp cloth. Many chemicals cause damage to breathing passages so it is important to protect yourself.

Listen to the radio or TV.

Fill up bathtubs, sinks, and large containers with water and turn off the water shutoff if you can. Water supplies may become contaminated so you should preserve all the water you can.

Close and lock all doors and windows. Close the window shades, blinds, or curtains to reduce personal injury in the event of explosion.

Close off nonessential rooms such as storage areas, laundry rooms, and extra bedrooms.

Turn off all fans, heating, and air conditioning systems.

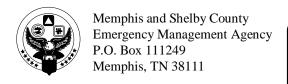
€lose the fireplace damper.

Seal the house as much as possible. You can use duct tape or masking tape to seal cracks around doors. You can also use tape and plastic sheeting cut from garbage bags, to cover the windows completely. Wet towels can also be used to seal cracks, especially at the bottom of doors. Take your family and pets to a safe room, the one that is best sealed from the outside. This should be an above-ground room (not a basement) with the fewest windows and doors. Some chemicals are heavier than air, and may seep into basements, even if the windows are closed.

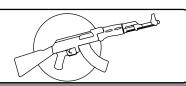
Take your radio, TV, and disaster kit with you.

Stay in the safe room and listen to the radio or TV until your area has been given the all-clear, or you are told to evacuate.

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### **Terrorism**



The following is some general information about terrorism.

#### ☐ Chemical and biological weapons

Intended to produce panic

Typically made up of vapors and airborne particles, which are heavier than air (and will seek low places like basements and underground garages).

Heat, cold, and wind will reduce the effect.

If you remain calm and follow simple guidelines, you will probably survive.

If you come into contact with a suspicious substance or persons acting suspiciously, call 911 and report it to the police.

Follow the advice of the police dept.

If no other advice is given, go outside into fresh air, and upwind of the source.

Remain calm, walk slowly (if you panic you will breathe faster and inhale more poison).

## Tips for checking suspicious mail what should you do? (from the FBI)

Look for indicators of a problem

No return address

Mailed from a foreign country or excessive postage

Misspelled words, poorly typed or written

Wires sticking out

Lopsided, uneven, rigid, bulky

Strange odor

Wrong title or name

Oily stains, discoloration,

crystallization on wrapper

Excessive tape or string

If indicators are present, treat it as suspect! Call 911 if unsure.

Isolate, handle with care, don t shake or bump.

Don t open, smell, or taste.

### ☐ <u>Tips for handling suspicious mail (from the United States Postal Service)</u>

Do not handle if contamination is suspected. Notify your supervisor.

Isolate package or letter, secure the area.

Make a list of all persons who touched the package.

Call the Postal Inspector give list of persons who touched the package (he will assess the threat).

All persons who touched the package should wash hands with soap and water, place clothing and other items worn in plastic bags.

As soon as possible, shower with soap and water For questions, contact the Center for Disease Control at (770) 488-7100.

The Health Department will be notified.

The Emergency Management Agency will be

#### **☐** Nuclear weapon

notified.

If you see a bright flash of light like the sun:

Drop to the ground

The heat wave will be over in a second

There will be two blast waves (one going out, one coming back in)

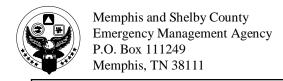
Everything will be over within two minutes Heat, radiation, and flying debris will kill most within a half mile or so (depending on the size of the blast).

A pulse from the blast will fry all electronics for one to two miles (no cars, phones, computers, ATMs, etc.).

If you survive the initial blast, your chances of survival are greater.

Radioactive dust can be washed off canned food, and will settle to the bottom of water if you let it stand.

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### **Disaster Preparation**



An emergency can occur at any time and place. When it does you may not have much time to react. A highway spill of hazardous materials could mean instant evacuation. A winter storm could confine your family at home. An earthquake, flood, or tornado could isolate you from basic services, such as gas, water, electricity, and telephone services for days. In addition, emergency services such as fire protection, police, and ambulances may not be available for a period of time.

Your family will cope best by preparing for an emergency before it happens. You and your family should put together an emergency plan so each person will know what to do in the event of a disaster. You should prepare a disaster kit in advance. You may not be able to shop for necessary supplies for the health of your family when an emergency occurs. In addition, you should learn about first aid, and be prepared to use it if necessary.

Family disaster planning includes the following steps:

#### ☐ Eliminate Hazards

Anchor bookcases and heavy appliances, also, strap down the water heater. Remove heavy objects from over and around beds, placing them on lower shelves. Move beds away from windows. Ensure exit paths are clear. Take photographs of your valuables and each room to help with insurance claims.

#### ☐ Family Training and Drills

Each family member should know his responsibilities during an emergency. Designate an out of area person for everyone to call (in an emergency it may be easier to call outside the area than within the area). Practice taking cover with your family so everyone will know where to go and what to do in an emergency. Practice exiting to make sure the exits are clear.

#### ☐ Prepare for the Needs of Children

Make sure everyone is aware of the plan to pick up the children from school or daycare, and make sure the school has an up-to-date disaster plan and emergency supplies. Note: children are especially vulnerable to psychological trauma. Help them to understand a crisis situation. Afterwards, reassure the children and do not leave them alone. Encourage them to talk about the experience and their feelings.

#### ☐ Know Basic First Aid and CPR

It may be necessary to provide immediate medical assistance to yourself, a family member, or another person. It is very important to have a good first aid kit, and the knowledge to use it.

#### **☐** Special Needs Population

Elderly, disabled, blind, or other persons may require special plans to cope with an emergency. Special assistance may be required to move around or evacuate, and special food or medication may be required.

#### ☐ Prepare for Pets

Consider your pet s'heeds in your emergency planning. Make sure your pet has some identification on it. Make sure other needs, such as a leash or carrier, are available. Note: pets are normally not allowed in emergency shelters.

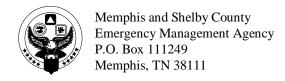
#### **☐** Know how to shut off utilities

Know how to shut off water, gas, and electricity coming into your home. Page 13 has more detail in this area.

#### ☐ Disaster Kit

Keep a disaster kit handy to help you through a disaster. Keep this document in your disaster kit. Pages 14 and 15 provide more details on kits.

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### **Disaster Preparation**



#### **Shutting off Utilities**

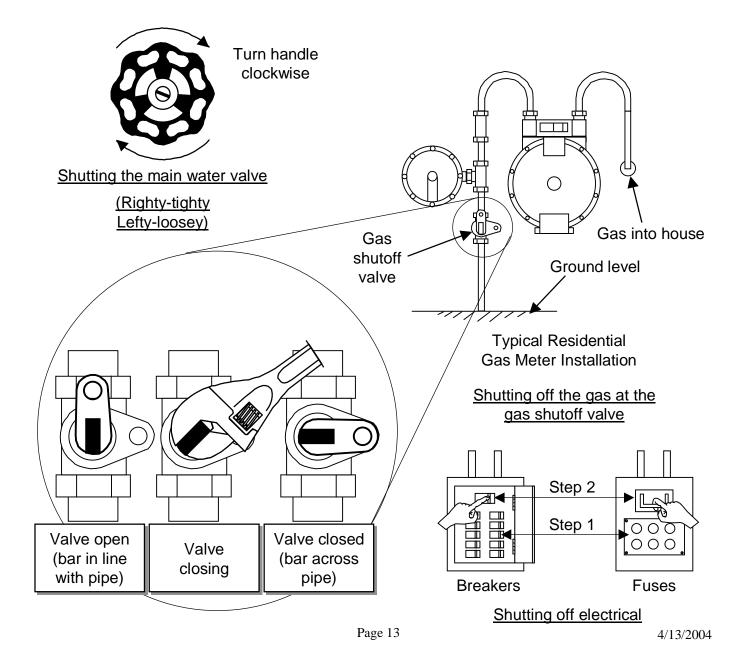
You should know how to shut off water, gas, and electricity coming into your home.

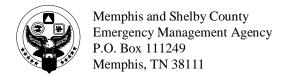
**<u>Electrical:</u>** Turn off individual breakers or unscrew fuses before turning off main breaker or pulling main disconnect.

Water: Most homes have a manual valve to shut off the water.

**Gas:** The gas shutoff is usually located outside, next to the meter. Note that a wrench, similar to an adjustable wrench, will probably be required to close this valve. Once the gas is shut off, only the utility company can restore it. Do not shut off the gas unless you smell gas in the air. If you have any questions, contact Memphis Light Gas and Water or your local utility company.

The following illustrations show how to shut off typical residential gas and water lines.





### **Disaster Kit**



The following information may help you in the preparation of your disaster kit. The kit items should be stored in one place where they are easy to get to if you have to evacuate. Most items will fit in a large lidded plastic container or a duffel bag.

#### ☐ First Aid Kit

A first aid kit is a good place to start your emergency planning. Make sure your kit has supplies for major bleeding and broken bones, not just minor cuts and bruises. The following items should be included:

- (1) container (Ziploc bag or plastic food storage box from grocery store)
- (24) 3x3 or 4x4 sterile gauze pads
- roll: stretch gauze 2 ör 3 wide
- (12) sanitary napkins (to control bleeding)
- (2) roll: cloth tape 1 wide
- (1) triangular bandage (sling)
- (12) butterfly band-aids (close wounds)
- bottle: Hydrogen peroxide (1)

- (24) cotton balls
- Ace bandage (1)
- (24) **Q-tips**
- (24) band-aids
- (4) pair: latex gloves
- antibiotic ointment (2)
- cold pack (2)
- (1) needle (to remove splinters)
- (24) moistened towelettes (1) bottle: aspirin
- (1) tweezers

- (1) first aid manual
- scissors (1)

- (1) smelling salts
- (12) safety pins
- (ammonia inhalant)
- saline solution (1)

#### ■ Water

Store at least one gallon per person, per day (assume a 3 day minimum). Store water in portable containers in case you have to evacuate. Rotate your stock every 3 to 6 months. This will be easier if you write the purchase date on each bottle with a heavy marker. Although plastic juice and milk bottles can be used to store water, it is better to purchase new containers.

Purchase a bottle of water purification tablets from an outdoor/camping store in case you need to purify additional water. Some stores also carry longstorage water in packets.

If you are in your home you can use the water stored in your water pipes and hot water heater to supplement your supply. You can also use the water in the toilet tank (not the bowl!).

#### $\Box$ Food (3 day s worth)

Ready to eat items (canned meats, fruits, vegetables)

Other (dried milk, soup)

High energy foods (peanut butter, jelly, crackers, granola bars, trail mix)

Specialty foods (infants, children, elderly, people on special diets)

Comfort/stress items (hard candy, instant coffee, tea bags)

Manual can opener

Utensils and plastic storage containers

Aluminum foil

Write the date on each item and rotate every 6 months

#### **□** Sanitation

5 gal bucket, with lid and lid lifter Kitchen garbage bags with ties

Toilet paper

Soap

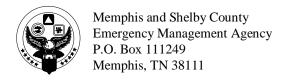
Washcloth/towel

Feminine supplies

Bleach (helps to decompose human waste)

Small shovel

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### **Disaster Kit**



### ☐ <u>Utility and Specialty Items</u>

Baby formula, diapers, ointment

Tarp (rain protection)

Heavy black marker (to leave

messages)

Index cards (for messages)

Small plastic Ziploc bags (to

put message in)

Duct tape for repairs and to

seal out the weather

Leather gloves for each adult

Multi-function knife (Swiss

Army knife)

Heavy cord for repairs

Gas shutoff wrench (10 "adjustable wrench or similar)

Dust masks for each person

Whistle for each person, with

lanyard to wear around the neck
Photographs of family members

(help to locate people)

\$5 in change (for phone calls)

Matches

**C**andles

Portable radio

Chemical lights (lightsticks)

Flashlight

Spare batteries

List of telephone numbers,

contacts

Books, cards, games for

children

Blanket

In the event of a disaster, there is a good chance that you will be at work or driving, so you should also have a disaster kit in your car. If the roads and bridges are heavily damaged, consider that you may have to walk home. Items that you may want to include in your auto disaster kit:

#### ☐ Auto Emergency Kit (store in knapsack)

First aid kit Duct tape

**L**eather gloves **P**hotographs of each family member

Small crowbar Whistle (to signal to rescuers)

Dust masks Signal mirror (to signal to rescuers)

Portable radio with extra batteries

Tarp (rain protection) €lothesline

Heavy black marker, index cards, and Fire extinguisher

Ziploc bags for messages Change for phone

Flashlight with extra batteries 2 qt water (rotate frequently)

In addition to the items in your disaster kit, there are other items that you might use regularly that you will need to include if you need to evacuate your home. If possible, keep these items near your disaster kit so they are easily available.

#### ☐ Evacuation items

**B**lanket

€lothes

Jackets, coats

Raincoat

Crowbar (to help people trapped

under wreckage)

Important documents (keep in firesafe box for protection and ease of

locating)

Medications

Glasses

€ontact lens and solution

**D**entures

Portable radio with extra

batteries

Flashlight with extra

batteries

Camp stove, small grill, or other outdoor

cooking device

Tent

Blankets

**€**ash

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